

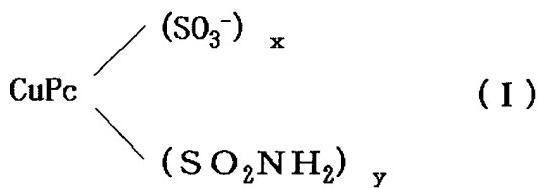
REMARKS

Reconsideration and withdrawal of the rejections set forth in the above-mentioned Office Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1-18 are pending in the application, with Claims 1, 10 and 15-17 being the independent claims. Claims 1, 10 and 14-17 have been amended and Claim 18 is newly added. Support for the newly added claim may be found, for example, at page 11, lines 2-6 of the specification. Applicants submit that no new matter has been added.

Claims 1-9 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over EP 1 239 010 A1 (Kenworthy et al.) in view of U.S. Patent No. 4,853,036 (Koike et al.) and U.S. Patent No. 6,174,355 (Mayo et al.). Claims 10-12 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Kenworthy et al. in view of Koike et al. Claims 13 and 14 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Kenworthy et al. in view of Koike et al. and further in view of U.S. Patent No. 5,965,252 (Santo et al.). Claims 15-17 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Kenworthy et al. in view of Koike et al. These rejections are respectfully traversed.

Applicants' invention as recited in independent Claim 1 is directed to an aqueous ink including a phthalocyanine dye represented by a general formula (I) and an aqueous medium. The phthalocyanine dye does not contain a component of $x + y = 2$ but at least contains components of $x + y = 3$ and $x + y = 4$. A content of the component $x + y = 4$ is larger than a content of the component of $x + y = 3$, and the aqueous medium contains an amine compound having a vapor pressure of 0.01 mmHg or higher at 20-25°C. General formula (I) is set forth below:



CuPc represents a copper phthalocyanine residue, x represents 1, 2, 3 or 4 and y represents 0, 1, 2 or 3.

Applicants' invention as recited in Claim 10 is directed to an ink jet recording method including a step of discharging an aqueous ink onto a recording medium by an ink jet method. The aqueous ink is comparable to the aqueous ink of Claim 1. Applicants' invention as recited in Claim 15 is directed to an ink tank including an ink holding portion containing an aqueous ink. The aqueous ink is comparable to the aqueous ink of Claim 1. Applicants' invention as recited in Claim 16 is directed to a recording unit including an aqueous ink and an ink jet recording head for discharging the aqueous ink. The aqueous ink is comparable to the aqueous ink of Claim 1. Applicants' invention as recited in Claim 17 is directed to an ink jet recording apparatus including an ink jet recording head for discharging an aqueous ink. The aqueous ink is comparable to the aqueous ink of Claim 1.

The present invention uses in combination a specific phthalocyanine dye and an amine compound having a vapor pressure of 0.01 mmHg or higher at 20-25°C to help solve the problems of poor water resistance and the bronze phenomenon that frequently occur when using an ink-jet ink containing a phthalocyanine dye represented by formula (I) to form an image on a recording medium such as coating paper and glossy

paper. (See page 3, line 9 through page 4, line 2 of Applicants' specification and the examples.) In order to solve the above problems, the contents of the component of $x + y = 3$ and the component of $x + y = 4$ are adjusted with respect to the substituents of the phthalocyanine compound within a specific range.

Further, by containing an amine compound having a vapor pressure of 0.01 mmHg or higher at 20-25°C, the bronze phenomenon and water resistance can be improved. This is because such an amine compound can control the agglomeration conditions of the dye in the ink to efficiently prevent the bronze phenomenon due to aggregation of the dye after printing or deterioration of water resistance caused by insufficient fixation of the dye according to the dye agglomeration state. (See page 9, line 18 through page 10, line 25 of Applicants' specification and the examples.)

Applicants submit that the cited art fails to teach or suggest at least the above-mentioned features.

Kenworthy et al. discloses an ink containing a phthalocyanine dye and an amine compound. However, Kenworthy et al. does not describe a phthalocyanine dye having the specific substituents of the presently claimed invention. Further, Kenworthy et al. does not teach or suggest the combined use of components having different $x + y$ values with respect to their substituents, nor does Kenworthy et al. teach or suggest the adjustment of the contents of the $x + y = 3$ component and the $x + y = 4$ component within a specific range. Kenworthy et al. is also not read to teach or suggest the combined use of the specific phthalocyanine dye of the presently claimed invention and an amine compound having a vapor pressure of 0.01 mmHg or higher at 20-25°C, and Kenworthy et al. is silent as to the beneficial effects of improving the gas resistance and preventing the bronze phenomenon that can be obtained by the present invention.

Koike et al. describes an ink for ink jet recording containing a volatile solvent having a vapor pressure of 1 mmHg or higher at 25°C, and also describes that a low volatile solvent having a vapor pressure of lower than 1 mmHg can be used. Koike et al., however, does not teach or suggest using in combination a phthalocyanine dye and an amine compound.

Additionally, Koike et al. is directed to the prevention of feathering of a printed matter or improvement in the drying property of the ink, which are different from the effects of the present invention. Thus, Applicants submit that one of ordinary skill in the art would not be motivated to combine Kenworthy et al. with Koike et al. Accordingly, Applicants respectfully submit that the Examiner is merely picking and choosing features and that the proposed combination is the result of impermissible hindsight.

Mayo et al. was cited for its teaching of an ink having a viscosity of from about 1 centipoise to about 5 centipoise. Santo et al. was cited for its teaching of an ink receiving layer having alumina hydrate. Applicants submit that neither reference remedies the above-noted deficiencies of Kenworthy et al. and Koike et al.

Therefore, Applicants submit that none of the cited art, whether taken alone or in combination (assuming such combinations are proper), teaches or suggests important features of Applicants' claimed invention. Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103 rejections.

Applicants respectfully submit that the present invention is patentably defined by independent Claims 1, 10 and 15-17. Dependent Claims 2-9, 11-14 and 18 are also allowable, in their own right, for defining features of the present invention in addition

to those recited in their respective independent claims. Individual consideration of the dependent claims is requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action, and an early Notice of Allowance are respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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